

WHAT IS CLAIMED IS:

1. A method of preserving bodily protein stores in a catabolic patient, comprising the concomitant administration (a) at least one of  $\alpha$ -ketoglutarate and  $\alpha$ -ketoglutaric acid and (b) ammonium in an amount effective to preserve skeletal muscle.
2. The method of claim 1, wherein the administration of (a) lasts for more than one hour.
3. The method of claim 1, wherein the administration of ammonium lasts for more than one hour.
4. The method of claim 3, wherein the concomitant administration lasts for more than 6 hours but less than 36 hours.
5. The method of claim 1, wherein the administration is to a patient having undergone trauma or surgery and the administration is intermittent or continuous for at least three days of the posttraumatic/postoperative period during which the patient is in a catabolic state.
6. The method of claim 1, wherein administration is by infusion.
7. The method of claim 6, wherein the dosing rate of (a) is from  $0.02 \mu\text{mol}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$  to  $30 \mu\text{mol}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$ .

8. The method of claim 7, wherein the dosing rate of (a) is from 0.5  $\mu\text{mol}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$  to 15  $\mu\text{mol}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$ .

9. The method of claim 6, wherein the dosing rate of  $\text{NH}_4^+$  is from 0.5  $\mu\text{mol}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$  to 20  $\mu\text{mol}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$ .

10. The method of claim 9, wherein the dosing rate of  $\text{NH}_4^+$  is from 1  $\mu\text{mol}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$  to 10  $\mu\text{mol}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$ .

11. The method of claim 9, wherein the dosing rate of  $\text{NH}_4^+$  is increased over the period of administration.

12. The method of claim 11, wherein the dosing rate of (a) is from 0.02  $\mu\text{mol}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$  to 30  $\mu\text{mol}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$ .

13. The method of claim 11, wherein said increase is by a factor of from 1.5 to 8.

14. The method of claim 13, wherein said increase is by a factor of from 2 to 5.

15. The combination of a first pharmaceutical composition comprising at least one of  $\alpha$ -ketoglutarate and  $\alpha$ -ketoglutaric acid in a pharmaceutically acceptable carrier and a second pharmaceutical composition comprising ammonium in a pharmaceutically acceptable carrier, in an amount effective to preserve skeletal muscle.

16. The combination of claim 15, wherein the carrier is an infusion carrier.
17. The combination of claim 15, wherein the carrier is an oral carrier.
18. The combination of claim 15, wherein the  $\alpha$ -ketoglutarate is in form of its sodium salt.
19. The combination of claim 15, wherein ammonium is in form of its chloride.